

REMARKS

Status of the Claims

Claims pending in the above-identified application are Claims 1-6, 8-17, 19-27, and 29-45. Claims 1-6, 8-11, 13-17, 19-21, 23-27, 29-31, 33-43, and 45 are amended. Claims 7, 18, and 28 are canceled. Claims 12, 22, 32, and 44 are original. The amendments do not introduce new matter into the above-identified application. Support for the new amendments is found throughout the specification.

Status of the Specification

There was a typographical error listing the HLMI for Inventive Resin C as 811.9; it should have been 81.2. One of ordinary skill in the art would understand that the decimal point was misplaced, and with rounding, the HLMI for Inventive Resin C should read “81.2”. No new subject matter was introduced.

Requirement for Restriction Under 37 CFR § 1.142(b)

On January 14, 2005, Examiner L.S. Choi of the U.S. Patent and Trademark Office (“PTO”) initiated a telephone interview with Applicants’ representative David E. Wigley, Ph.D., to discuss a restriction requirement. The restriction was as stated on page 2 of the above-referenced Office Action. Applicant’s representative made a provisional election with traverse of the Group I claims, Claims 1-13. Respectfully, in view of the above amendments to the Claims, Applicants assert that the restriction requirement under 37 C.F.R. § 1.142(b) is obviated and request reconsideration.

As a result of the above claim amendments, all pending claims include the claim element of film haze. Given that all of the Claims have film haze as one of the defining characteristics, Applicants respectfully assert that it cannot be shown that the pending claims are incapable of use together and they have different modes of operation, different functions, or different effects. Accordingly, Applicants respectfully request that the restriction requirement under 37 C.F.R. § 1.142(b) be withdrawn.

Claim Objections

Claims 1-13 are objected to because of the use of the general term “polymer.” Respectfully, in view of the above amendments, the objection is obviated and Applicants request this objection be withdrawn.

The Rejections Under 35 USC § 102

Claims 1-7 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,370,940 to Hazlitt et al. (“*Hazlitt*”). Respectfully, this rejection is traversed. The above amendments have not been made in view of *Hazlitt*.

The PTO states that *Hazlitt* discloses a thermoplastic ethylene interpolymer film which has a density of about 0.935 g/ml or less, I_{10}/I_2 of at least about 8, I_2 of from about 0.1 to about 4 g/10 min; M_w/M_n of 4.16 - 6.20, and a film clarity of 0.25 - 29.70. These properties apparently were taken from Tables II and VII of *Hazlitt*. However, even if correct, *Hazlitt* cannot anticipate the claimed invention.

Hazlitt states that the “interpolymer product is a composite or blend of ethylene interpolymers, typically copolymers or terpolymers of ethylene and one or more alpha-olefin monomers having 3 to 18 carbon atoms.” (Emphasis added.) *Hazlitt*, column 2, lines 48-51. See also *Id.*, column 3, lines 40-56. As evidenced throughout *Hazlitt*, these interpolymers are multiple reactor products or blends of polymers. *Id.*, column 3, lines 57-60, and column 4, lines 6-9.

Specifically, “[t]he interpolymer products of Examples 1-11 [were] produced in a solution polymerization process using a series, dual-zone (or dual reactor) configuration.” *Id.*, column 6, lines 3-5. “A solvent mixture [] of saturated C_8-C_{10} hydrocarbons and 1-octene [was] fed to each zone via separate feed streams []. Ethylene [] and hydrogen [were] each added to each feed stream independently. The reaction [was] initiated by injecting catalyst and cocatalyst [] into both zones.” *Id.* at lines 8-14. Each zone was operated under different conditions. *Id.* at lines 30-32. “The interpolymer stream of Zone A [was] discharged to Zone B for further reactions where it [was] combined with fresh ethylene and hydrogen. The total interpolymer product of Zones A and B [exited] Zone B [] and [was] well mixed, purified and pelletized.” *Id.* at lines 33-38. The term “well mixed” confirms that the interpolymer product produced was a

blend or composite of polymers. Accordingly, the interpolymers of Examples 1-11, which were employed to generate Tables II and VII, were a composite or blend of polymers and not an individual homopolymer or copolymer of ethylene. Thus, the properties relied upon by the PTO listed in Tables II and VII to form the basis of the rejection are NOT applicable to a homopolymer or copolymer of ethylene.

Hazlitt describes interpolymers, but does not teach or suggest a “homopolymer or copolymer of ethylene,” which has the features of the claimed invention. Hence, *Hazlitt* does not teach or suggest each and every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 1-7 under 35 U.S.C. § 102(b) in view of *Hazlitt* be withdrawn.

The Rejections Under 35 USC §§ 102 and 103

Claims 1-13 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,239,059 to *Saudemont* et al. (“*Saudemont*”). Respectfully, this rejection is traversed. The above amendments have not been made in view of *Saudemont*.

The PTO states that *Saudemont* discloses a copolymer of ethylene and hexene in the presence of a catalyst containing $\text{Et}(\text{Ind})_2\text{ZrCl}_2$ on a solid support which is obtained by contacting a silica with dibutoxyaluminatoxytriethoxysilane and then with $(\text{NH}_4)_2\text{SiF}_6$ and triisobutylaluminium (TiBA), as indicated in Examples 1 and 34 of *Saudemont*. Respectfully, only Example 34 employs such a catalyst system. The PTO states that *Saudemont* is silent on specific polymer properties, but in view of the “substantially identical process to prepare the copolymer of ethylene and hexene, the copolymer of ethylene and hexene would possess the claimed properties.”

Applicants respectfully assert that the catalyst system used in *Saudemont* is NOT substantially identical to the catalyst system employed to produce the homopolymer or copolymer of the claimed invention. Example 1 employs Cp_2ZrCl_2 , an unbridged metallocene, as the metallocene compound in the catalyst system. *Saudemont*, column 10, line 33. In sharp contrast, the polymers of the claimed invention are produced by a catalyst system employing at least one bridged metallocene compound. See page 8, line 6, to page 24, line 17. Accordingly,

on this basis alone there is a significant difference between Applicants' catalyst systems and that which is employed by *Saudemont* in Example 1.

Further, as recognized by the PTO, Examples 1 and 34 of *Saudemont* specifically use a SiO₂/dibutoxyaluminooxytriethoxysilane/O₂/F solid support compound in their catalyst system. Applicants do not. The rationale for the silanization treatment, as described by *Saudemont*, "results in a species derived from silicon being grafted on the surface of the support to make this surface more hydrophobic." *Id.*, column 2, lines 59-61. After this silanization, "the said support particles thus grafted are then subjected to a fluorination treatment." *Id.*, column 4, lines 32-33.

Per the description of the production of the solid support compound of Examples 1 and 34, a suspension of the silica support "is treated with 846 mg of dibutoxyaluminooxytriethoxysilane [] at 50°C for 1 hour." *Id.*, column 10, lines 5-7. Additional heptane is added, followed by stirring, and then "the suspension is decanted in order to remove the supernatant liquid. The washing operation is repeated 3 times." *Id.*, column 10, lines 8-10. The resultant material is dried in dynamic vacuum, heat treated in a fluidized bed with argon, and finally heat treated in a fluidized bed with oxygen. Only then is the fluorine source introduced: "62 mg of (NH₄)₂SiF₆ [] are then added" (*Id.*, column 10, line 20) to form a mixture, followed by a heat treatment in a fluidized bed with argon, to form the solid support compound.

In sharp contrast, the chemically treated solid oxide of the claimed invention is devoid of silane compounds – in particular, dibutoxyaluminooxytriethoxysilane – and the silanization process used by *Saudemont* to produce the solid support compound of Examples 1 and 34. Please see page 24, line 19, to page 36, line 18.

Thus, there is a significant difference between *Saudemont*'s SiO₂/dibutoxyaluminooxytriethoxysilane/O₂/F solid support and Applicants' treated solid oxides. Because of this difference alone, there is a significant deviation of commonality between the catalyst systems described in Examples 1 and 34 of *Saudemont* and those employed by Applicants. In other words, the catalyst system of *Saudemont* is not substantially identical to those employed by Applicants to produce the homopolymer or copolymer of the claimed invention. Respectfully, it is well known to one of ordinary skill in the art that any change, whatsoever, in components of a catalyst system can give rise to substantially different polymer

properties, such as density, melt index, high load melt index (HLMI), and polydispersity index (Mw/Mn), as well as film properties such as haze and clarity.

Applicants respectfully assert that both the catalyst system and the preparation process of the catalyst system of *Saudemont* are not substantially identical to that of the claimed invention. Hence, the underlying premise that *Saudemont* has a “substantially identical process” and thus would give similar polymer resin and film properties is cannot be fairly concluded. *Saudemont* does not inherently teach or suggest each and every element of the claimed invention – and therefore cannot anticipate the claimed invention – since the catalyst system of *Saudemont* consists of different materials and a different preparation process. Given the significant differences that catalyst system and preparation can have on polymer properties, and that the catalyst system employed by *Saudemont* is significantly different from those employed by Applicants, Applicants respectfully assert that the PTO has not made a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of Claims 1-13 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over *Saudemont*, be withdrawn.

CONCLUSION

In view of the above remarks, Applicants respectfully assert that the rejections of the claims as set forth in the Office Action has been addressed and overcome. Applicants further respectfully assert that all claims are in condition for allowance and requests that an early notice of allowance be issued. If issues may be resolved through Examiner's Amendment, or clarified in any manner, a call to the undersigned attorney at (404) 879-2433 is respectfully requested.

No fees are believed due, however, the Commissioner if hereby authorized to charge any deficiencies which may be required, or credit any overpayment to Deposit Account No. 09-0528.

Respectfully submitted,



By: Jeffery B. Arnold
Reg. No. 39,540

WOMBLE CARLYLE SANDRIDGE & RICE, PLLC

P.O. Box 7037

Atlanta, Georgia 30357-0037

Direct Telephone: (404) 879-2433

Direct Facsimile: (404) 879-2933

Firm Telephone: (404) 872-7000

Atty. Docket No.: C51757 0450 (51879.0305.1)